

Indian Rose Annual XV - IRA 1999

National Rose Convention at Jabalpur, Madhya Pradesh State

Better Roses for the Tropics - Breeding with *R. gigantea*

M.S. Viraraghavan

Rosa gigantea, described rapturously as the "Empress of wild roses" by the great rose authority, Graham Stuart Thomas, is perhaps the most attractive of India's wild roses. Sir George Watt who discovered the species in Manipur, likened the flowers to golden magnolias appearing in profusion above the tree tops in its native habitat. Apart from the beauty of the flower, and extraordinary vigour, the species is blessed with lovely large disease resistant foliage. My plants in Kodaikanal raised from seed collected in Manipur in 1991 have never suffered from either blackspot or mildew.

The remarkable prospects of breeding with *R. gigantea* have been highlighted by a galaxy of eminent rosarians, including Swami Vinayananda who, in a thought provoking article, "Breeding is the Word" published in the commemorative brochure brought out at the 11th All India Rose Convention at Calcutta in 1991, has quoted the incomparable breeder, Jack Harkness in his book "Roses" (Published in 1978). "Because most Western rose breeders have been concerned with breeding hardy roses" (in the Western context - it means that it can stand severe winters) "it follows that the tender *R. gigantea* has been of little interest to them. That should not stop research by breeders in warm climates".

Jack's brother, Peter Harkness is even more enthusiastic. He says, "as these roses embody six great virtues - health, beauty, vigour, scent, good foliage, and remontancy, further direct use in breeding seems worthwhile".

On the subject of growing *R. gigantea* I had written a detailed review in the Indian Rose Annual, 1998. Before going into details of what has been achieved in breeding with this species in Kodaikanal, it is appropriate to deal briefly with the work of the great pioneers. It should be kept in mind here that probably only the Chinese or Burmese form of *R. gigantea* was used in this early work, which makes breeding with our Manipur version even more replete with possibilities.

One of the earliest successful crosses was 'Belle Portugaise', introduced by the breeder Cayeux in 1903, a very vigorous, light pink, once flowering climber, but inheriting the tender nature of the species. Other pioneer breeders include the Frenchman, Nabonnand, who introduced a series of climbing roses with *R. gigantea* as one parent. Working in Southern France, his varieties include 'Emmanuella de Mouchy' (rich carmine rose), 'Fiametta' (Indian Yellow, single) and 'Sénateur Amic' (Cochineal carmine). Both 'Emmanuella de Mouchy' and 'Sénateur Amic' are still available through old rose specialists, though not in India. Also in the 1920's, though work continued till early 1940, was that of an Australian, Alister Clark, whose most well known rose was 'Lorraine Lee', a pink shrub rose which is still quite popular in Australian gardens. Other interesting Clark roses include 'Nancy Hayward' (rich pink), and 'Kitty Kininmonth' (bright carmine rose), both climbers. None of these roses seem to have been grown in India, where probably the absence of severe winters would have resulted in very sparse flowering as these early hybrids were all once flowering types.

Slightly later, the Reverend George Schoener came on the scene, of whom a recent write up by a well known garden writer, Mr. William Grant entitled "Padre of the Roses" appeared in the journal, Pacific Horticulture. Though endowed with great energy and enthusiasm, as well as considerable knowledge of rose breeding, Fr. Schoener's work was plagued by a series of natural calamities including fire in his garden in Oregon, in the Pacific North West of U.S.A., and hurricanes in his later garden in Santa Barbara, California. Talented but unlucky, none of his numerous *R. gigantea* hybrids are available today, but a breeder attempting to work with this species has much to learn from Fr. Schoener's writings. In an illuminating article on "*R. gigantea* and allied species" in the American Rose Annual, 1932, he has dealt at length with the innumerable possibilities of work with this species. One interesting point that is made is that the Manipur form which is referred to as *R. macrocarpa* (because of its large fruits) is considered even more promising for breeding. In close collaboration with Fr. Schoener was the Boyce Thompson Institute in Yonkers, New York, especially its Director, Dr. Crocker. Dr. Crocker writes, talking of the *gigantea* seedlings raised by Fr. Schoener, "I feel that you will have greenhouse roses produced by your crossings that are so much better than any others grown now that there will be no comparison. I have been specially struck by the long conical buds that appear on many of the *Gigantea* hybrids, and the wonderful colouring and texture of the petals. Some of the foliage is wonderful". This opinion is entitled to great respect as it is based on observations of 20,000 seedlings of *R. gigantea*, which were the results of 1,200 combinations between the species and well known garden roses.

Three further points made by Fr. Schoener are :

1. The seedlings are by no means as frost tender as originally expected.

2. The chromosome number problems (*R. gigantea* is a diploid while garden roses are tetraploids) are quite easily overcome.
3. The bright colours of modern roses are not suppressed in the progeny of *R. gigantea*.

In addition to this, *R. gigantea*, since it is one of the grandparents of modern roses, sets seed quite easily with standard varieties and the species has that most invaluable characteristic of passing on the high centred pointed shape so beloved of rose exhibitors. In fact the experts credit *R. gigantea* with being the basis of the high centred form of H.T. roses.

As could be expected, any rose breeder in the tropics would feel compelled to have a go at working with *R. gigantea*, though the disturbing thought remains of how the results of F. Schoener's dedicated work could so completely disappear.

As mentioned in my earlier article, *R. gigantea* flowers freely in Kodaikanal - flowering starting in November and continuing till February with a peak in mid January. Interestingly, some scattered bloom occurs at various other times of the year. The flower colour in *R. gigantea* seedlings ranges from greenish-white to pure white, cream and light yellow, the latter rivalling the well known Tea rose, 'Lady Hillingdon', at the bud stage. Most of my work has been done with the yellowest of the seedlings.

R. gigantea sets seed easily, whether used as a seed parent or pollen parent, though it is prima facie better to use it as a pollen parent, as the F₁ generation are all once flowering. If, as is quite possible, the cross does not take, we may have the situation of growing a seedling for several years before realizing that the cross has not taken place.

In the first year work was done with *R. gigantea* as pollen parent on certain standard Hybrid Teas, which do well in my garden in Hosur, near Bangalore, as well as with some of the old China/Tea roses, as also with a few polyanthas. Pollen availability was limited that year, and of the first batch, 4 have flowered so far.

1. The cross 'Carmousine' (an orange-red H.T.) x *R. gigantea* produced a lovely climbing shrub, now 8 feet high at Kodaikanal, with exquisite dark red healthy foliage of the *R. gigantea* type, and very artistically coloured H.T. shaped blooms of giant size, 5 inches across. The colour is best described as intensified 'Lady Hillingdon'. This rose is pictured in the annual.

2. Another seedling of interest resulted from the cross of a pink miniature China rose closely resembling 'Old Blush', but much more magenta in colour, probably Ralph Moore's 'Mr. Bluebird'. With this as seed parent has come a very healthy shrub about 6 feet high with single flowers white with pink edges, which is also shown in the annual.

3. The first fully double, in fact super-double, seedling to flower was from the cross 'Rêve d'Or' (a bronze yellow Noiscttc/Tea). This is a very vigorous climber, now 12 feet high with very full flowers of light yellow strongly resembling the famous old rose 'Maréchal Niel', as is evident from the photograph.

4. The fourth of the roses to flower was a white single semi climber with good form at bud stage from the cross 'Echo' (polyantha) x the species.

In the next year, work was much easier as plenty of flowers were available on the plants of *R. gigantea*. Many combinations have been made and the seedlings are not yet at the flowering stage. Among these are crosses with the H.T.'s, 'Paradise', 'Mango', 'Apricot Spice', 'Marmalade', 'Red

Velvet', 'Arjun', 'Sandra', 'Carina' etc. Among the seedlings resulting from crosses with old roses are ('Old Blush' x *R. gigantea*), ('Madame Falcot' x *R. gigantea*), and ('Mrs B.R. Cant' (a pink Tea) x *R. gigantea*). Several species crosses have also been made and seedlings germinated, including crosses with *R. clinophylla*, and the species hybrids (*R. bracteata* x *R. clinophylla*) and (*R. bracteata* x *R. laevigata*).

This year the obvious next step has been taken for backcrossing the *gigantea* seedlings into garden roses. As Fr. Schoener had predicted, there does not appear to be a sterility problem so far.

From the above it is evident that some very interesting results could arise from this line of breeding. A great advantage in the work was the fact that though *R. gigantea* flowered in my Kodaikanal garden in winter, it was possible to take and bring back, pollen from my Hosur garden which was in full bloom in December/January. Hopefully, next year I will have something spectacular to report.

Copies of the original

Indian Rose Annual 1998

Better Roses for the Tropics - Breeding with *R. Gigantea*

M.S. Viraraghavan

R. gigantea described rapturously as the "Empress of wild roses" by the great rose authority, Graham Stuart Thomas, is perhaps the most attractive of India's wild roses. Sir George Watt who discovered the species in Manipur, likened the flowers to golden magnolias appearing in profusion above the tree tops in its native habitat. Apart from the beauty of the flower, and extraordinary vigour, the species is blessed with lovely large disease resistant foliage. My plants in Kodaikanal raised from seed collected in Manipur in 1991 have never suffered from either blackspot or mildew.

The remarkable prospects of breeding with *R. gigantea* have been highlighted by a galaxy of eminent rosarians, including Swami Vinayananda who, in a thought provoking article, "Breeding is the Word" published in the commemorative brochure brought out at the 11th All India Rose Convention at Calcutta in 1991, has quoted the incomparable breeder, Jack Harkness in his book "Roses" (Published in 1978). "Because most Western rose breeders have been concerned with breeding hardy roses" (in the Western context - it means that it can stand severe winters) "it follows that the tender *R. gigantea* has been of little interest to them. That should not stop research by breeders in warm climates".

Jack's brother, Peter Harkness is even more enthusiastic. He says, "as these roses embody six great virtues-health, beauty, vigour, scent, good foliage, and remontancy further direct use in breeding seems worthwhile".

On the subject of growing *R. gigantea* I had written a detailed review in the Indian Rose Annual, 1998. Before going into details of what has been achieved in breeding with this species in Kodaikanal, it is appropriate to deal briefly with the work of the great pioneers. It should

be kept in mind here that probably only the Chinese or Burmese form of *R. gigantea* was used in this early work, which makes breeding with our Manipur version even more replete with possibilities.

One of the earliest successful crosses was Belle Portugaise, introduced by the breeder Cayoux in 1903, a very vigorous light pink once flowering climber but inheriting the tender nature of the species. Other pioneer breeders include the Frenchman, Nabonnand, who introduced a series of climbing roses with *R. gigantea* as one parent. Working in Southern France, his varieties include Emmanuela de Mouchy (rich carmine rose), Fiametta (Indian Yellow, single) and Senateur Amic (Cochineal carmine). Both Emmanuela de Mouchy and Senateur Amic are still available through old rose specialists, though not in India. Also in the 1920's, though work continued till early 1940, was that of an Australian, Alister Clark, whose most wellknown rose was Lorraine Lee, a pink shrub rose which is still quite popular in Australian gardens. Other interesting Clark roses include Nancy Hayward (rich pink), and Kitty Kininmonth (bright carmine rose), both climbers. None of these roses seem to have been grown in India, where probably the absence of severe winters would have resulted in very sparse flowering as these early hybrids were all once flowering types.

Slightly later, the Reverend George Schoener came on to the scene, of whom a recent write up by a well known garden writer, Mr. William Grant entitled "Padre of the Roses" appeared in the journal, Pacific Horticulture. Though endowed with great energy and enthusiasm, as well as considerable knowledge of rose breeding, Fr. Schoener's work was plagued by a series of natural calamities including fire in his garden in Oregon, in the Pacific North West of U.S.A., and hurricanes in his later garden in Santa Barbara, California. Talented but unlucky, none of his numerous *R. gigantea* hybrids are available today, but a breeder attempting to work with this species has much to learn from Fr. Schoener's writings. In an illuminating article on "*R. gigantea* and allied species" in the American Rose Annual, 1932, he has dealt in length with the exciting possibilities of work with this species. One interesting point that is made is that the Manipur form which is referred to as *R. macrocarpa* (because of its large fruits) is considered even more promising for rose breeding. In close collaboration with Fr. Schoener was the Boyce Thompson Institute in Yonkers, New York, especially its Director, Dr. Crocker. Dr. Crocker writes, talking of the *gigantea* seedlings raised

by Fr. Schoener, "I feel that you will have greenhouse roses produced by your crossings that are so much better than any others grown now that there will be no comparison. I have been specially struck by the long conical buds that appear on many of the gigantea hybrids, and the wonderful colouring and texture of the petals. Some of the foliage is wonderful". This opinion is entitled to great respect as it is based on observations of 20,000 seedlings of *R. gigantea*, which were the results of 1200 combinations between the species and well known garden roses.

Three further points made by Fr. Schoener are :

1. The seedlings are by no means as frost tender as originally expected.
2. The chromosome number problems (*R. gigantea* is a diploid while garden roses are tetraploids) are quite easily overcome.
3. The bright colours of modern roses are not suppressed in the progeny of *R. gigantea*.

In addition to this, *R. gigantea*, since it is one of the grandparents of modern roses sets seed quite easily with standard varieties and the species has that most invaluable characteristic of passing on the high centred pointed shape so beloved of rose exhibitors. In fact the experts credit *R. gigantea* with being the basis of the high centred form of H.T. roses.

As could be expected, any rose breeder in the tropics would feel compelled to have a go at working with *R. gigantea*, though the disturbing thought remains of how the results of F. Schoener's dedicated work could so completely disappear.

As mentioned in my earlier article, *R. gigantea* flowers freely in Kodaikanal, flowering starting in November and continuing till February with a peak in mid January. Interestingly, some scattered bloom occurs at various other times of the year. The flower colour in *R. gigantea* seedlings ranges from greenish-white to pure white, cream and light yellow, the latter rivalling the well known Tea rose, Lady Hillingdon, at the bud stage. Most of my work has been done with the yellowest of the seedlings.

R. gigantea sets seed easily, whether used as a seed parent or pollen parent, though it is *prima facie* better to use it as a pollen parent,



Seedling of (Carmousine x *R. gigantea*)

Photo courtesy : Mr. M. S. Viraraghavan



Seedling of (Pink China x *R. gigantea*)

Photo Courtesy : Mr. M. S. Viraraghavan



Seedling of (Rev d'Or x *R. gigantea*)

(Photo courtesy : Mr. M. S. Viraraghavan)



Seedling of (Echo x *R. gigantea*)

(Photo Courtesy : Mr. M. S. Viraraghavan)

as the F_1 generation are all once flowering. If, as is quite possible, the cross does not take, we may have the situation of growing a seedling for several years before realizing that the cross has not taken place.

In the first year work was done with *R. gigantea* as pollen parent on certain standard Hybrid Teas, which do well in my garden in Hosur, near Bangalore, as well as with some of the old China/Tea roses, as also with a few polyanthas. Pollen availability was limited that year, and of the first batch, 4 have flowered so far.

1. The cross Carmousine (an orange-red H.T.) x *R. gigantea* produced a lovely climbing shrub, now 8 feet high at Kodaikanal, with exquisite dark red healthy foliage of the *R. gigantea* type, and very artistically coloured H.T. shaped blooms of giant size, 5 inches across. The colour is best described as intensified Lady Hillingdon. This rose is pictured in the annual.

2. Another seedling of interest resulted from the cross of a pink miniature China rose closely resembling Old Blush, but much more magenta in colour, probably Ralph Moore's Mr. Bluebird. With this as seed parent has come a very healthy shrub about 6 feet high with single flowers, white with pink edges, which is also shown in the annual.

3. The first fully double, in fact superdouble, seedling to flower was from the cross Rev d'Or (a bronze yellow Noisette/Tea). This is a very vigorous climber, now 12 feet high with very full flowers of light yellow, strongly resembling the famous old rose Marechal Neil, as is evident from the photograph.

4. The fourth of the roses to flower was a white single semi climber with good form at bud stage from the cross Echo (polyantha) x the species.

In the next year work was much easier as plenty of flowers were available on *R. gigantea*. Many combinations have been made and the seedlings are not yet at the flowering stage. Among these are crosses with the H.T.'s Paradise, Mango, Apricot Spice, Marmalade, Red Velvet, Arjun, Sandra, Carina etc. Among the seedlings resulting from crosses with old roses are (Old Blush x *R. gigantea*), (M. Falcot x *R. gigantea*), and (Ms. B.R. Cant (a pink Tea) x *R. gigantea*). Several species crosses have also been made and seedlings germinated, including crosses with *R. clinophylla*, and the species hybrids (*R. bracteata* x *R. clinophylla*) and (*R. bracteata* x *R. laevigata*).

This year the obvious next step has been taken for backcrossing the gigantea seedlings into garden roses. As Fr. Schoener had predicted there does not appear to be a sterility problem so far.

From the above it is evident that some very interesting results could arise from this line of breeding. A great advantage in the work was the fact that though *R. gigantea* flowered in my Kodaikanal garden in winter, it was possible to take and bring back, pollen from my Hovor garden which was in full bloom in December/January. Hopefully, next year I will have something spectacular to report.